CLAIMS

1. A Lys-lys binding site I which is a plasminogen fragment consisting of Kringle 1 to Kringle 3 of a naturally occurring plasminogen with the N-terminal being lysine, which binding site binds to heparin and has the following properties:

a. a molecular weight of 38 kDa;

b. it is not glycosylated;

c. it binds intensely to heparin under non-physiological conditions but binds less intensely to heparin under physiological conditions;

d. it inhibits tumor metastasis and tumor growth but has no ability to inhibit growth of endothelial cells of blood vessels;

wherein said plasminogen fragment is prepared by:

a. preparing Lys-plasminogen from naturally occurring plasminogen either by adding plasmin to a solution of naturally occurring plasminogen or by incubating naturally occurring plasminogen in the presence of tranexamic acid to autolysis;

b. treating the Lys-plasminogen obtained in step (a) with elastase to produce fractions of the fragment comprising Kringle 1 to Kringle 3;

c. identifying the fragment of Kringle 1 to Kringle 3 which binds to heparin.

2. A process for preparing a plasminogen fragment consisting of Kringle 1 to Kringle 3 of a naturally occurring plasminogen with the N-terminal being lysine, said fragment having the ability to inhibit tumor metastasis and tumor growth, but having no ability to inhibit growth of endothelial cells of blood vessels, comprising:

a. preparing Lys-plasminogen from naturally occurring plasminogen either by adding plasmin to a solution of naturally occurring plasminogen or by incubating naturally occurring plasminogen in the presence of tranexamic acid to autolysis;

b. treating the Lys-plasminogen obtained in step (a) with elastase to produce fractions of the fragment consisting of Kringle 1 to Kringle 3;

c. identifying the fragment of Kringle 1 to Kringle 3 which binds to heparin; and

d. isolating the fragment which binds to heparin.

3. The process according to claim 2 wherein the fragment which bind to heparin is recovered by passing a solution of a Lys-plasminogen lysate with elastase through a carrier to which heparin is coupled as a ligand to adsorb those fragment which bind to heparin, and eluting those fragments which do not bind to heparin.

4. A composition for inhibiting tumor metastasis and tumor growth comprising an effective amount of a fragment according to claim 1 and, optionally, a pharmaceutically acceptable carrier.